

CLAIMS

1 1. Data decompression apparatus for decompressing
an input stream of codes to recover an output stream
of data characters corresponding thereto, a code
corresponding to a string of data characters, comprising
5 code decoder means including a plurality of code
decoder outputs corresponding to a respective plurality
of codes to be assigned to strings,
said code decoder means responsive to an input
code for selectively energizing a code decoder output
10 in accordance with said input code,
a plurality of logic elements corresponding to
said respective plurality of codes, a logic element having
an input and an output, the inputs of said logic elements
being coupled to respective code decoder outputs,
15 character storage means responsive to the code
decoder outputs and having a plurality of storage
locations for storing respective data characters, a
storage location being accessed by a code decoder output
to provide the data character stored therein, and
20 coupling means for selectively coupling outputs
of said logic elements to inputs thereof so that the
data characters of the string corresponding to said input
code are provided by said character storage means,
thereby providing said output stream of data
25 characters.

2. The apparatus of claim 1 wherein said coupling
means comprises means for selectively coupling outputs
of said logic elements to inputs thereof so that
30 energization of the code decoder output corresponding
to said input code propagates through sequentially coupled
logic elements to access storage locations of said
character storage means to provide the data characters
of the string corresponding to said input code.

1 3. The apparatus of claim 1 further including means
for recording an extended string and assigning a code
thereto, comprising

means for storing the first character of the
5 string corresponding to said input code in the storage
location of said character storage means accessible by
the code decoder output corresponding to a next code
to be assigned to a string,

said coupling means being operative for coupling
10 the output of the logic element corresponding to said
next code to the input of the logic element corresponding
to the code received previously to said input code,

so as to record in said data decompression
apparatus the extended string comprising the string
15 corresponding to the previously received code extended
by said first character and to assign said next code
thereto.

4. The apparatus of claim 1 further including means
20 for processing a currently fetched code to which a
recorded string has not been assigned, comprising

means for storing the first character of the
string corresponding to the code received previously
to said currently fetched code in the storage location
25 of said character storage means accessible by the code
decoder output corresponding to a next code to be assigned
to a string,

said coupling means being operative for coupling
the output of the logic element corresponding to said
30 next code to the input of the logic element corresponding
to the previously received code,

so as to record in said data decompression
apparatus an extended string corresponding to said
currently fetched code and to output the characters
35 thereof.

1 5. The apparatus of claim 4 wherein said means for
processing said currently fetched code is operative to
record the extended string comprising the string
corresponding to the previously received code extended
5 by said first character and to assign said next code
thereto.

6. The apparatus of claim 1 wherein said coupling
means comprises means for selectively coupling outputs
10 of said logic elements to code decoder outputs.

7. The apparatus of claim 6 further including means
for recording an extended string and assigning a code
thereto, comprising
15 means for storing the first character of the
string corresponding to said input code in the storage
location of said character storage means accessible by
the code decoder output corresponding to a next code
to be assigned to a string,
20 said coupling means being operative for coupling
the output of the logic element corresponding to said
next code to the code decoder output corresponding to
the code received previously to said input code,
so as to record in said data decompression
25 apparatus the extended string comprising the string
corresponding to the previously received code extended
by said first character and to assign said next code
thereto.

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- 1 8. The apparatus of claim 6 further including means
for processing a currently fetched code to which a
recorded string has not been assigned, comprising
means for storing the first character of the
5 string corresponding to the code received previously
to said currently fetched code in the storage location
of said character storage means accessible by the code
decoder output corresponding to a next code to be assigned
to a string,
10 said coupling means being operative for coupling
the output of the logic element corresponding to said
next code to the code decoder output corresponding to
the previously received code,
so as to record in said data decompression
15 apparatus an extended string corresponding to said
currently fetched code and to output the characters
thereof.
9. The apparatus of claim 6 wherein
20 said data characters are from an alphabet of
data characters, and
said plurality of code decoder outputs includes
further code decoder outputs corresponding to the
respective data characters of said alphabet.
- 25 10. The apparatus of claim 9 wherein said coupling
means is operative to couple the output of a logic element
to one of said further code decoder outputs to record
a string with a root character corresponding to said
30 one of said further code decoder outputs.
11. The apparatus of claim 9 wherein said character
storage means includes initialized locations accessible
by said further code decoder outputs and storing said
35 data characters of said alphabet, respectively.

1 12. The apparatus of claim 1 further including means
for assigning a level to a data character of a string,
the level assigned to the last character of the string
denoting the number of data characters comprising the
5 string.

13. The apparatus of claim 12 wherein an extended
string is comprised of a prefix string of at least one
data character followed by an extension character,
10 said assigning means being operative to assign
a level to said extension character that is one greater
than the level assigned to the last character of said
prefix string.

15 14. The apparatus of claim 1 wherein said plurality
of logic elements comprises a plurality of OR-gates.

15. The apparatus of claim 14 wherein said plurality
of OR-gates comprises a plurality of single input
20 OR-gates.

16. The apparatus of claim 1 wherein said plurality
of logic elements comprises a matrix of logic elements.

25 17. The apparatus of claim 6 wherein said coupling
means comprises a matrix switch.

18. The apparatus of claim 17 wherein said matrix
switch comprises a plurality of controllable switches
30 for selectively coupling the outputs of said plurality
of logic elements to said code decoder outputs, a
controllable switch coupling the output of a logic element
corresponding to a particular code to a code decoder
output corresponding to a code less than said particular
35 code.